

WHAT IS CLAIMED IS:

1. A method for evaluating accommodation amplitude in an eye of a person comprising the steps of: subjecting said person to a near-vision visual acuity test, said test comprising at least one target having a plurality of optotypes displayed thereon, said optotypes on one said target having a different size than optotypes on another of said targets; determining a nearest point at which said person initially experiences blurring while viewing said optotypes on each said target; introducing one of a plus lens or a minus lens in front of said eye of said person as needed and having a dioptric power sufficient to locate said nearest point to within a predetermined range of distances from said eye, said minus lens of sufficient dioptric power being used to push said nearest point further away from said eye and into said range as needed, said plus lens of sufficient dioptric power being used to pull said nearest point closer to said eye and into said range as needed; and calculating said accommodation amplitude from a formula comprising $(AA) = 100 / (\text{distance in centimeters between said target and said eye at said nearest point}) - (\text{dioptric power of said plus or minus lens})$.

2. The method of Claim 1 wherein said range is from about 10 centimeters long to about 50 centimeters long.

3. The method of Claim 2 wherein said range is from about 15 centimeters long to about 25 centimeters long.

4. The method of Claim 1 wherein said range is about 20 centimeters long and corresponds to locating said nearest point a distance from said eye of between about 20 centimeters and about 40 centimeters.

5. The method of Claim 1 wherein said test is the Jaeger Test, each said target comprising a card having typed writing displayed thereon.

6. The method of Claim 5 wherein said card is chosen from the group of cards consisting of card J16, card J5 and card J2.

7. The method of Claim 6 wherein using said J16 card comprises training said person in the performance of said method, and using said J5 card and said J2 card comprises evaluating said accommodation amplitude, a final determination of said accommodation amplitude being made either by an average reading from evaluations from said J5 card and said J2 card or by a reading from evaluation from said J2 card.

8. The method of Claim 1 wherein binocular accommodation amplitude is evaluated by subjecting both eyes of said person simultaneously to said test.

9. The method of Claim 1 wherein said test is conducted using an apparatus, said apparatus comprising a holder, a track, a control piece, and a lens positioner, said holder configured to holdably receive said target, said control piece engaging said track coaxially in a manner of engagement selected from the group consisting of slidably and threadedly, said holder being connected to an end of said control piece and movable relative to said track by manipulation of the

engagement of said control piece with said track, said lens positioner configured to receive said one of said plus lens or minus lens, said apparatus being mounted adjacent said eye, said track being aligned with the line of sight for said eye being tested.

10. The method of Claim 9 wherein said apparatus further comprises distance markings along said track indicating relative distances between said eye and said target within said holder when said apparatus is mounted adjacent said eye.

11. The method of Claim 10 wherein said apparatus further comprises a reference point marker movably mounted adjacent said track, said marker having a length consistent with said identified range, said marker being positioned along said track for indicating the range for locating said nearest point within distances from said eye as desired.

12. The method of Claim 11 wherein said marker is positioned to indicate a range for locating said nearest point between about 10 centimeters and about 60 centimeters from said eye.

13. The method of Claim 9 wherein said apparatus is configured at one end for mounting said apparatus on a phoropter.

14. The method of Claim 9 wherein said apparatus further comprises a bridge piece for mounting said apparatus adjacent said person's nose bridge between said eyes, said track being aligned substantially parallel and equidistant between the lines of sight for each said eye.

15. The method of Claim 1 wherein said test is performed on said person having full distance vision correction in place, said full distance vision correction being selected from the group of vision correction devices consisting of eyeglasses, contacts, a phoropter, and an eyeglasses trial frame.

16. The method of Claim 15 wherein said formula comprises $(AA) = 100/(\text{distance in centimeters of said target from said eye at said nearest point} - (\text{dioptric power of said plus or minus lens}) + (\text{deficit in dioptric power of said full distance vision correction}))$.

17. The method of Claim 1 wherein said dioptric power of said plus or minus lens in said formula comprises the corneal power of said plus or minus lens, said corneal power being calculated according to the formula $(\text{Corneal Power}) = (\text{listed dioptric power of said plus or minus lens}) / (1 - (d * (\text{listed dioptric power of said plus or minus lens})))$, wherein d = the distance in meters that said one of said plus lens or said minus lens is located in front of the cornea of said eye.

18. The method of Claim 17 wherein the value of d is presumed to be about 0.013 meters.

19. The method of Claim 1 further comprising the step of evaluating said accommodation amplitude using an objective accommodation measuring device positioned oppositely facing said eye.

20. The method of Claim 19 wherein said objective accommodation measuring device comprises a measuring device chosen from the group of

measuring devices consisting of dynamic retinoscopy machines and dynamic autorefractometers.

21. The method of Claim 19 wherein said target comprises a one-way mirror having a mirror side and a viewer side, said viewer side being opposite said person, said device evaluating said accommodation amplitude through said viewer side.

22. The method of Claim 19 wherein said target comprises an aperture therethrough, said aperture located generally centrally in said target, said device evaluating said accommodation amplitude through said aperture.

23. The method of Claim 19 wherein said target comprises a projected image, said image being projected to appear to said person at a plurality of projected distances from said eye, said device evaluating said accommodation amplitude at each said projected distance.

24. An apparatus for evaluating accommodation amplitude comprising: a holder, a track, a control piece, and a lens positioner, said holder configured to holdably receive a target, said control piece engaging said track coaxially in a manner of engagement selected from the group consisting of slidably and threadedly, said holder connected to an end of said control piece and movable relative to said track by manipulation of the engagement of said control piece with said track, said lens positioner configured to receive one of a plus lens or a minus lens, said apparatus being mounted at one end adjacent an eye of a person, said track being aligned with the line of sight for said eye.

25. The apparatus of Claim 24 further comprising a plurality of distance markings displayed along said track indicating relative distances from said eye when said apparatus is mounted adjacent said eye.

26. The apparatus of Claim 25 further comprising a reference point marker movably mounted adjacent said track, said marker having a length consistent with a predetermined range for locating a near point within distances from said eye as desired, said marker being positioned along said track for indicating said distances.

27. The apparatus of Claim 26 wherein said marker is positioned to indicate said distances within which to locate said near point as between about 10 centimeters and about 60 centimeters from said eye.

28. The apparatus of Claim 26 wherein said predetermined range is from about 10 centimeters long to about 50 centimeters long.

29. The apparatus of Claim 26 wherein said predetermined range is from about 15 centimeters long to about 25 centimeters long.

30. The apparatus of Claim 26 wherein said predetermined range is about 20 centimeters long, said marker being positioned to locate said near point as between about 20 centimeters and about 40 centimeters from said eye.

31. The apparatus of Claim 24 wherein said one end is configured for mounting said apparatus on a phoropter.

32. The apparatus of Claim 24 further comprising a bridge piece removably secured to said one end for mounting said apparatus adjacent said

person's nose bridge between said eye and the other eye of said person, said track being aligned substantially parallel and equidistant between the lines of sight for each of said eyes.

33. A method for evaluating accommodation amplitude and range of accommodation in an eye of a person comprising the steps of: subjecting said person to a near-vision visual acuity test, said test comprising at least one target having a plurality of optotypes displayed thereon, said optotypes on one said target having a different size than optotypes on another of said targets; fixing said target in a position that is a known distance from said eye regardless of whether said person can accurately identify any optotypes on said target; introducing a series of lenses, said lenses graduating or diminishing within a spectrum of dioptric power; noting the dioptric power of each said lens for which said person can accurately identify a majority of said optotypes on said target; and calculating said accommodation amplitude from a first formula comprising $(AA) = (100)/(\text{distance in centimeters between said position and said eye}) - (\text{lowest dioptric power of a said lens for which said person can accurately identify a majority of said optotypes on said target})$.

34. The method of Claim 33 further comprising calculating the strongest physically achievable accommodation of said eye from a second formula comprising $(\text{strongest accommodation}) = (100)/(\text{distance in centimeters between said position and said eye}) - (\text{highest dioptric power of a said lens for$

which said person can accurately identify a majority of said optotypes on said target).

35. The method of Claim 33 wherein said position is a distance of about 20 centimeters from said eye.

36. The method of Claim 33 wherein said spectrum is from about -5D to about 15D.

37. The method of Claim 33 wherein said test is the Jaeger Test, each said target comprising a card having typed writing displayed thereon.

38. The method of Claim 33 wherein said test is the Jaeger Test, each said target comprising a card having typed writing displayed thereon, and said card is chosen from the group of cards consisting of card J16, card J5 and card J2.

39. The method of Claim 34 wherein said position is a distance of about 20 centimeters from said eye.

40. The method of Claim 34 wherein said spectrum is from about -5D to about 15D.

41. The method of Claim 34 wherein said test is the Jaeger Test, each said target comprising a card having typed writing displayed thereon.

42. The method of Claim 34 wherein said test is the Jaeger Test, each said target comprising a card having typed writing displayed thereon, and said card is chosen from the group of cards consisting of card J16, card J5 and card J2.

43. The method of Claim 33 wherein said test is the Jaeger Test, each said target comprising a card having typed writing displayed thereon, and said

card is chosen from the group of cards consisting of card J16, card J5 and card J2, and wherein using said J16 card comprises training said person in the performance of said method, and using said J5 card and said J2 card comprises evaluating said accommodation amplitude.

44. The method of Claim 34 wherein said test is the Jaeger Test, each said target comprising a card having typed writing displayed thereon, and said card is chosen from the group of cards consisting of card J16, card J5 and card J2, and wherein using said J16 card comprises training said person in the performance of said method, and using said J5 card and said J2 card comprises evaluating said accommodation amplitude and said range of accommodation.

45. The method of Claim 33 wherein binocular accommodation amplitude is evaluated by subjecting both eyes of said person simultaneously to said test.

46. The method of Claim 33 wherein said test is performed on said person having full distance vision correction in place, said full distance vision correction being selected from the group of vision correction devices consisting of eyeglasses, contacts, a phoropter, and an eyeglasses trial frame.

47. The method of Claim 34 wherein binocular accommodation amplitude is evaluated by subjecting both eyes of said person simultaneously to said test.

48. The method of Claim 34 wherein said test is performed on said person having full distance vision correction in place, said full distance vision

correction being selected from the group of vision correction devices consisting of eyeglasses, contacts, a phoropter, and an eyeglasses trial frame.

49. The method of Claim 33 wherein said test is performed on said person having full distance vision correction in place, and said first formula comprises $(AA) = (100)/(\text{distance in centimeters between said position and said eye}) - (\text{lowest dioptric power of a said lens for which said person can accurately identify a majority of said optotypes on said target}) + (\text{deficit in dioptric power of said full distance vision correction})$.

50. The method of Claim 34 wherein said test is performed on said person having full distance vision correction in place, said first formula comprises $(AA) = (100)/(\text{distance in centimeters between said position and said eye}) - (\text{lowest dioptric power of a said lens for which said person can accurately identify a majority of said optotypes on said target}) + (\text{deficit in dioptric power of said full distance vision correction})$, and said second formula comprises $(\text{weakest accommodation}) = (100)/(\text{distance in centimeters between said position and said eye}) - (\text{lowest dioptric power of a said lens for which said person can accurately identify a majority of said optotypes on said target}) + (\text{deficit in dioptric power of said full distance vision correction})$.